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Client/Matter: 071469-0306094

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REMARKS

Claims 1 and 24 are amended. No claims are canceled or added. Accordingly, after entry of this Amendment, claims 1-31 will remain pending. Since claims 25-31 have been withdrawn from further consideration, claims 1-24 remain under active examination.

In the non-final Office Action dated August 23, 2006, the Examiner rejected claims 1-13, 15, 18, and 21-24 under 35 U.S.C. § 102(b) as being anticipated by Hunter (U.S. Patent No. 6,026,896). Claims 1-5, 9-11, 14-16, and 20-24 were rejected under 35 U.S.C. § 102(b) as being anticipated by Schaper et al. (U.S. Patent No. 5,802,856). In addition, the Examiner rejected claims 12-14 and 17-19 under 35 U.S.C. § 103(a) as being unpatentable over Hunter in view of Kanno et al. (U.S. Patent Application Publication No. 2003/0164226). Finally, claims 6-8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hunter in view of Schultz et al. (U.S. Patent No. 4,060,997). The Applicant respectfully disagrees with each of these rejections and, therefore, respectfully traverses the same.

Claims 1-24 are patentably distinguishable over the references cited by the Examiner because they recite an apparatus for controlling a temperature of a substrate (claims 1-23) and a distributed temperature control system (claim 24) that combine a number of features including, among them, an outlet flow control unit, including a mixer, that is in fluid communication with the channel of the thermal assembly and the first and second fluid units, the outlet flow control unit being constructed and arranged to supply the channel with a controlled heat transfer fluid comprising at least one of the heat transfer fluid having a first temperature, the heat transfer fluid having a second temperature or a combination thereof. None of the references describe apparatuses that combine features including at least this feature. As a result, the Applicant respectfully submits that the rejections of claims 1-24 must be withdrawn so that the claims may be passed quickly to issuance.

Hunter describes a temperature control system for semiconductor processing facilities. Fig. 3 illustrates a temperature control system 50 that uses two manifolds 12, 52 for distribution of heat transfer fluids at different temperatures to multiple components of multiple process units. (Hunter at col. 5, lines 24-27.) The multiple components can be any part of a semiconductor processing device or utility that benefits from heating or cooling including, but not limited to, the support member or pedestal, the process chamber walls, remote plasma sources, and cooldown chambers. (Hunter at col. 4, lines 40-45.) With component 72, it is possible to provide the option of using the fluid of either manifold 12 or

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52. (Hunter at col. 5, lines 39-41.) This is done via a three-way valve 74. (Hunter at col. 4, lines 41-45.)

While Hunter describes that a three-way valve 74 may apply the fluid from either of the fluid manifolds 12, 52, there is nothing in Hunter that describes or suggests an outlet flow control unit, with a mixer, that is constructed and arranged to supply the channel with a controlled heat transfer fluid comprising at least one of the heat transfer fluid having a first temperature, the heat transfer fluid having a second temperature or a combination thereof. In fact, Hunter's reliance on a three-way control valve would suggest to those skilled in the art that the fluids from either of the manifolds 12, 52 are not mixed. A three-way valve does not imply any mixer.

Since Hunter fails to describe each and every feature of the invention as recited by claims 1-24, the Applicant respectfully submits that Hunter cannot be relied upon to anticipate any of claims 1-24. Accordingly, the Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. § 102(b) with respect to the Hunter reference.

Schaper et al. suffers from the same deficiency as Hunter and, therefore, also cannot be relied upon to anticipate any of claims 1-24. Schaper et al. describes a multizone bake/chill thermal cycling module. A substrate 32, such as a semiconductor wafer or flat panel display, is baked and chilled through thermal contact with thermally conductive plates 34, an array of thermoelectric devices (TEDs) 36, and a heat exchanger 38. (Schaper et al. at col. 4, lines 23-27.) The fluid supplies 64, 66, 68 to the heat exchanger 38 may be set to three different temperatures, such as 80°C, 30°C, and 10°C. (Schaper et al. at col. 7, lines 25-27.) Each of the fluids may be passed through the heat exchanger 38. (Schaper et al. at col. 7, line 40 "only 80°C fluid from fluid supply 64"; and col. 7, line 33 "only 10°C fluid from fluid supply 68".) There is, however, no discussion of, among other things, an outlet flow control unit, with a mixer, that is constructed and arranged to supply the channel with a controlled heat transfer fluid comprising at least one of the heat transfer fluid having a first temperature, the heat transfer fluid having a second temperature or a combination thereof. Accordingly, like Hunter, Schaper et al. does not describe each and every feature recited by claims 1-24 and, therefore, cannot be relied upon to anticipate any of claims 1-24.

With respect to claims 12-14 and 17-19, Kanno et al. does not assist the Examiner to fashion a *prima facie* rejection, with Hunter, of the claims. Kanno et al. also is deficient in that it does not describe, among other things, an outlet flow control unit, with a mixer, that is

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constructed and arranged to supply the channel with a controlled heat transfer fluid comprising at least one of the heat transfer fluid having a first temperature, the heat transfer fluid having a second temperature or a combination thereof. Accordingly, Kanno et al. cannot be combined properly with Hunter to render obvious any of claims 1-24, let alone claims 12-14 and 17-19. At least for this reason, therefore, the Applicant respectfully requests that the Examiner withdraw the rejection combining Hunter with Kanno et al.


Schultz et al. is deficient for the same reasons that Hunter and Kanno et al. are deficient. There is simply no discussion of, among other features, an outlet flow control unit, with a mixer, that is constructed and arranged to supply the channel with a controlled heat transfer fluid comprising at least one of the heat transfer fluid having a first temperature, the heat transfer fluid having a second temperature or a combination thereof. Accordingly, Schultz et al. cannot be combined properly with Hunter to render obvious any of claims 1-24. Therefore, the Applicant respectfully requests that the Examiner withdraw the rejection combining Hunter with Schultz et al.

In view of the foregoing, the Applicant respectfully requests that the Examiner withdraw the rejections of claims 1-24 and pass this application quickly to issue.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

PILLSBURY WINTHROP
SHAW PITTMAN LLP

 Thomas P. Hilliard
Reg. No. 40330
for JEFFREY D. KARCESKI
Reg. No. 35914
Tel. No. 202 663.8403
Fax No. 202.663.8007

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P.O. Box 10500
McLean, VA 22102